

OBSERVATIONAL RESULTS OF THE BELGRADE VERTICAL CIRCLE AFTER ITS RECONSTRUCTION

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Summary: The Belgrade Large Vertical Circle Askania 190/2578 mm was reconstructed in 1974. From the results of observation with this instrument during 1975, the authors conclude that now they may begin regular observations. One part of Bright Star Program will be observed.

1. The Large Vertical Circle Askania 190/2578 mm (Teleki, 1968) of Astronomical Observatory in Belgrade was not used for many years because its observational results did not comply with the requirements. For this reason this instrument was reconstructed under D. S. Usanov's guidance in 1974. D. S. Usanov (Pulkovo Observatory) conceived the scheme of the reconstruction, too. The details of this significant technical task and the first results of the investigation of instrument after its reconstruction, were presented at the 20. Astrometrical Conference of USSR at Pulkovo (Usanov et al., 1976).

We continued the investigation. Our final conclusions are:

a) The changes of instrumental constants (collimation, inclination, azimuth) were negligible during longer periods.

b) The internal accuracy of the *FK4* stars observations was $\pm 0',4$, which corresponds to such classical type of instrument.

c) The mean values of obtained latitudes did not change much from night to night (within the limits $0',1 - 0',2$).

d) The flexure was not changed by the reconstruction. The mean value of the flexure horizontal component is about $1''$.

These and other data are evidence that the reconstruction resulted in a significant improvement. The presumable accuracy of this instrument can be considered as the standard one. Its continuous investigation is recommended but the possibility is presented to begin with regular observations immediately.

2. With regard to our possibilities and to the need of contemporary fundamental astrometry, we decided to observe the stars from the Bright Star Program between $+70^\circ$ and 90° of declinations. This zone contains 270 stars.

We intend to observe stars by absolute method, in both position of instrument. Each star will be observed 8 times: 4 at lower and 4 at upper culmination.

REFERENCES

Teleki, G., 1968, Publ. Obs. Astr. Belgrade, **14**, 168.

Usanov, D. S., Teleki, G., Mijatov, M., 1976, Trudy 20. Astrometr. Konf. SSSR (in print).